

IN THE CLAIMS

Please cancel claim 29 without prejudice.

Please amend the following claims which are pending in the present application:

1. (Previously presented) A thermal interface material for thermal coupling of an electronic component to a thermally conductive member, comprising:

a viscoelastic polymer matrix material;

fusible metal solder particles in the matrix material, having a melting temperature below a selected temperature of 300°C; and

filler particles in the matrix material, having a melting temperature above the selected temperature.

2. (Previously presented) The thermal interface material of claim 1 wherein the matrix material comprises between 1 and 20% by weight of the thermal interface material.

3. (Previously presented) The thermal interface material of claim 2 wherein the matrix material comprises approximately 8% by weight of the thermal interface material.

4. (Previously presented) The thermal interface material of claim 1 wherein the

matrix material is selected from the group consisting of a silicone, an amino epoxy, and acrylate, an olefin resin, and a phase-change material.

5. (Original) The thermal interface material of claim 4 wherein the matrix material is silicone.
6. (Previously presented) The thermal interface material of claim 5 wherein the solder particles comprise between 1 and 99% by weight of the thermal interface material.
7. (Previously presented) The thermal interface material of claim 6 wherein the solder particles comprise at least 5% by weight of the thermal interface material.
8. (Previously presented) The thermal interface material of claim 7 wherein the solder particles comprise between 25 and 90% by weight of the thermal interface material.
9. (Original) The thermal interface material of claim 1 wherein the solder particles are selected from the group consisting of In, InSn, InAg, SnAg, SnAgCu, SnBi, InSnBi, InTi, InZr, InTiCeSe, and InAgTiSeCe.
10. (Original) The thermal interface material of claim 1 wherein the matrix

material is silicone and the solder particles do not substantially attack the silicone when the solder particles melt.

11. (Original) The thermal interface material of claim 1 wherein the solder particles have a melting temperature between 60 and 300°C.

12. (Original) The thermal interface material of claim 11 wherein the solder particles have a melting temperature of approximately 157°C.

13. (Original) The thermal interface material of claim 1 wherein the solder particles have widths of between 0.2 and 100 microns.

14. (Cancelled)

15. (Previously presented) The thermal interface material of claim 1 wherein the filler particles comprise between 1 and 95% of the thermal interface material by weight.

16. (Previously presented) The thermal interface material of claim 15 wherein the filler particles comprise at least 10% by weight of the thermal interface material.

17. (Previously presented) The thermal interface material of claim 16 wherein the

filler particles comprise approximately 15% by weight of the thermal interface material.

18. (Previously presented) The thermal interface material of claim 16 wherein the solder particles and the filler particles comprise between 50 and 95% by weight of the thermal interface material.

19. (Previously presented) The thermal interface material of claim 18 wherein the solder particles and the filler particles comprise approximately 92% by weight of the thermal interface material.

20. (Original) The thermal interface material of claim 16 wherein the filler particles are selected from the group consisting of Ni, Cu, Ag, Ag/Cu, Sn, graphite and Al.

21. (Original) The thermal interface material of claim 20 wherein the filler particles are Al.

22. (Original) The thermal interface material of claim 16 wherein the filler particles have a melting temperature above 350°C.

23. (Original) The thermal interface material of claim 16 wherein the filler particles have a melting temperature which is at least 100°C above a melting temperature of

the solder particles.

24. (Original) The thermal interface material of claim 16 wherein the filler particles have a melting temperature which is at least 200°C above a melting temperature of the solder particles.

25. (Previously presented) A thermal interface material for thermal coupling of an electronic component to a thermally conductive member, comprising:

a viscoelastic polymer matrix material;

fusible metal solder particles in the matrix material, having a melting temperature below 200°C and do not substantially attack the matrix material when the solder particles are melted; and

filler particles in the matrix material, having a melting temperature above 400°C.

26. (Original) The thermal interface material of claim 25 wherein the matrix material is silicone.

27. (Original) The thermal interface material of claim 26 wherein the filler particles are aluminum.

28. (Currently amended) An electronic assembly comprising:

an electronic component which generates heat when operated;
a thermally conductive member spaced from the electronic component; and
a thermal interface material between the electronic component and the thermally conductive member, the thermal interface material including a viscoelastic polymer matrix material, metal solder particles that are fused together so as to provide an unbroken thermal path for heat to conduct from the electronic component and the thermally conductive member and having a melting temperature below a selected temperature, and filler particles in the matrix material having a melting temperature which is at least 100°C above the selected temperature.

29. (Cancelled)

30. (Currently amended) The electronic assembly of claim [[29]] 28 wherein at least one of the filler particles is in contact with and entirely surrounded by one of the solder particles.